

PATENT COOPERATION TREATY

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INTERNATIONAL SEARCHING AUTHORITY

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WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/JP2004/011728

International filing date (day/month/year)
10.08.2004

Priority date (day/month/year)
15.08.2003

International Patent Classification (IPC) or both national classification and IPC
G02B6/42, G02B6/43, G02B6/12

Applicant
CANON KABUSHIKI KAISHA

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of Invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/JP2004/011728

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/JP2004/011728

Box No. II Priority

1. ☒ The following document has not been furnished:

- ☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).
- ☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|-----------|
| Novelty (N) | Yes: Claims | 9 |
| | No: Claims | 1-8,10-16 |
| Inventive step (IS) | Yes: Claims | 9 |
| | No: Claims | 1-8,10-16 |
| Industrial applicability (IA) | Yes: Claims | 1-16 |
| | No: Claims | |

2. Citations and explanations

see separate sheet

Re Item V.

1. Cited documents

- 1.1 The following documents are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1: EP-A-1 286 194 (CANON KK) 26 February 2003 (2003-02-26)

2. Novelty

- 2.1 The present application does not meet the requirements of Article 33(2) PCT, because the subject-matter of claims 1-8,10-13,16 is not new:

- 2.2 Document D1 discloses (the references in parentheses applying to this document):

An optical element device comprising an optical element (2) and an optical path transforming structure (4) for changing a light proceeding direction in order to couple light with the optical element (2) or light from said optical element (2) with some other element, said optical path transforming structure being formed by processing a substrate (1) where said optical element (2) is formed ([0081]; figure 2A).

The subject-matter of independent claim 1 is therefore not new (Article 33(2) PCT).

- 2.3 D1 discloses the additional features introduced by claims 2-8,10-13,16:

- claim 2: transparent substrate ([0071],[0081])
- claims 3,4: semiconductor ([0071],[0081])
- claim 5: light emitting/receiving element ([0068],[0073],[0081])
- claim 6,7: optical waveguide layer ([0071],[0081])
- claim 8: path transforming structure profile ([0085],[0081])
- claim 10: buried structure ([0114],[0081])
- claim 11: optical waveguide layer in substrate ([0081]; figure 2A)
- claims 12,13: manufacturing method ([0085],[0081])
- claim 16: circuit board ([0039],[0081])

3. Inventive step

- 3.1 The present application does not meet the requirements of Article 33(3) PCT, because the subject-matter of claims 14,15 does not involve an inventive step.
- 3.2 The supplementary features introduced by dependent claims 14,15 relate to minor implementation details that do not add anything of inventive significance to the subject-matter of independent claim 12.

4. Further action

- 4.1 The combination of the features of claim 9 is neither known from, nor rendered obvious by, the available prior art. It is suggested therefore that the further procedure be based on claim 9.

5. Formal aspects

- 5.1 Independent claims 1,12,16 are not in the two-part form in accordance with Rule 6.3(b) PCT.
- 5.2 The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).
- 5.3 To meet the requirements of Rule 5.1(a)(ii), the document D1 should be identified in the description and the relevant background art disclosed therein should be briefly discussed.
- 5.4 In order to facilitate the examination of the conformity of the amended application with the requirements of Article 34(2)(b) PCT, the applicant is requested to clearly identify the amendments carried out, no matter whether they concern amendments by addition, replacement or deletion, and to indicate the passages of the application as filed on which these amendments are based (see also Rule 66.8(a) PCT).
If the applicant regards it as appropriate these indications could be submitted in handwritten form on a copy of the relevant parts of the application as filed.